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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,919	01/15/2004	David Michael Toth	71,024-003	5120

27305 7590 02/14/2006

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EXAMINER	
MITCHELL, KATHERINE W	

ART UNIT	PAPER NUMBER
3677	

DATE MAILED: 02/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/757,919	TOTH ET AL.	
	Examiner	Art Unit	
	Katherine W. Mitchell	3677	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) *6 and 7* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 8-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. 20060203
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Election/Restrictions

Claims 6-7 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 11/22/2005. The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 4 depends on claim 1 but contradicts claim 1. Claim 1 requires the annular support member to be polymeric material, claim 4 requires it to be rubber. While rubber is certainly similar to, and a well-known alternative to, polymers, it is not a polymer.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-5,8,9, 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guth et al USP 6336636.

Re claims 1, 4, 13: Guth teaches a seal assembly (Fig 1) comprising

- A rigid carrier 12
- An annular support member 14 engaged with carrier having a lip (see Fig 1, lip is portion extending past 12, past examiner's dotted line) defining an annular supporting surface, described as a dynamically stressed ballast gasket surrounding shaft under elastic radial prestress, attached by vulcanization to carrier 12 in col 3 lines 12-17.
- A PTFE (col 3 line 18-20) seal 1,5,11 having a 1st collar (to left of dashed line - see dashed line by examiner showing end of 1st collar portion and beginning of 2nd collar portion in Figure 1 below) connected to said supporting surface and a 2nd collar portion extending past said supporting surface and defining a 2nd sealing surface (to the right of examiner's dashed line below). The 1st collar and 2nd collar portion in Figure 1 below have sealing portions that simultaneously engage the rotating surface to establish a dynamic seal therebetween. Only the 1st sealing portion, defined on 1st collar, remains backed and reinforced by said flexible annular support member.

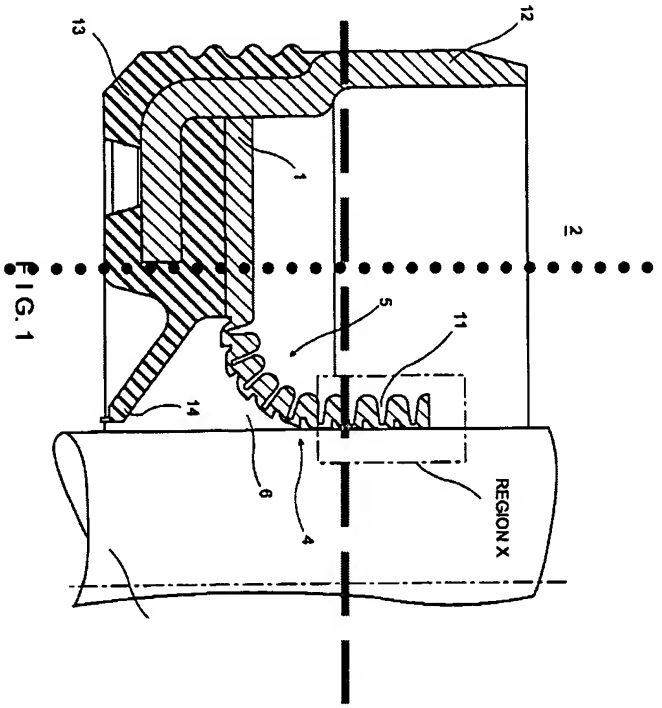

FIG. 1

Further Re claim 13: The 1st collar portion is connected directly to the annular support surface, and the 2nd collar freely extends from the first collar portion, and there is an annular living hinge disposed between the 2 - the living hinge is any of the u-shaped recesses such as at "11".

Further Re claims 1,4, and 13: However, Guth is not specific on the material of the annular support member, Guth describes it as a dynamically stressed ballast gasket surrounding shaft under elastic radial prestress, attached by vulcanization to carrier 12 in col 3 lines 12-17. It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have selected rubber or polymeric materials, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416. It would have been obvious to

make the gasket 14 of polymer as polymers are well-known in the gasket and seal art, and can be selected to provide wear and chemical resistance, and are widely available and inexpensive or of rubber, as rubber is also well known in the art and provides various hardnesses, resistances, depending on the rubber selected, and is very widely distributed and inexpensive.

Re claims 2,14-15: the dynamic sealing interface with the rotating surface is generally centered about an axis, and the 1st and 2nd collar portions and annular living hinge are concentric relative to said axis (Fig 1). At least some portion of each of the 1st and 2nd collar portions and annular living hinge portions define sealing surfaces - Fig 1.

Re claim 3: the 1st and 2nd portions are integrally formed wrt one another.

Re claim 5: hydrodynamic features are profiles 4 having sawtooth recesses 6.

Re claim 8,9: there is an annular living hinge disposed between the 2 - the living hinge is any of the u-shaped recesses such as at "11". The u-shaped cutout is considered a notch.

5. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guth et al USP 6336636 in view of Tripathy USP 6149158.

Guth teaches a seal assembly (Fig 1) comprising

- A carrier 12 having tubular portion (section shown in Fig 1 and a radial flange portion extending therefrom.
- An annular support member 14 engaged with carrier having a lip (see Fig 1, lip is portion extending past 12, past examiner's dotted line) defining an

annular supporting surface, described as a dynamically stressed ballast gasket surrounding shaft under elastic radial prestress, attached by vulcanization to carrier 12 in col 3 lines 12-17.

- A PTFE (col 3 line 18-20) seal 1,5,11 having a 1st collar (to left of dashed line - see dashed line by examiner showing end of 1st collar portion and beginning of 2nd collar portion in Figure 1 below) connected to said supporting surface and a 2nd collar portion extending past said supporting surface and defining a 2nd sealing surface (to the right of examiner's dashed line below). The 1st collar and 2nd collar portion in Figure 1 below have sealing portions that simultaneously engage the rotating surface to establish a dynamic seal therebetween. Only the 1st sealing portion, defined on 1st collar, remains backed and reinforced by said flexible annular support member.

Further Re claims 10, 12: However, Guth is not specific on the material of the annular support member, Guth describes it as a dynamically stressed ballast gasket surrounding shaft under elastic radial prestress, attached by vulcanization to carrier 12 in col 3 lines 12-17, or a wear sleeve. It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have selected rubber or polymeric materials, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416. It would have been obvious to make the gasket 14 of polymer as polymers are well-known in the gasket

and seal art, and can be selected to provide wear and chemical resistance, and are widely available and inexpensive or of rubber, as rubber is also well known in the art and provides various hardnesses, resistances, depending on the rubber selected, and is very widely distributed and inexpensive.

Further Re claims 12,10: Wear sleeves are well known in the rotating shaft seal art, as evidenced by Tripathy. A wear sleeve 232 is shown in Tripathy Fig 5. Col 3 lines 29-67 describe the relationships of the wear sleeve with a rotatable shaft. It also teaches a carrier 230, which is also shown as tubular (it would inherently encircle the shaft, thus tubular) and concentric w.r.t. the wear sleeve, and also has a radial flange (portion labeled 288 to 264), per col 4 lines 18-37 (describing Fig 4 but corresponding numbers are used in Fig 5 but with "200" prefix - i.e., "63" is "263" in Fig 5, etc.). Note that the "shaft" of the wear sleeve is concentric about the shaft, and thus a shaft with a wear sleeve will have the seal contact the wear sleeve rather than the shaft, since that is the section that will wear. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a wear sleeve, as wear sleeves are well known and used as "sacrificial' surfaces to be replaced rather than replacing a shaft, and they are commonly provided with annular outwardly facing sealing surfaces to provide an additional seal to help seal out dust, etc and protect the seal.

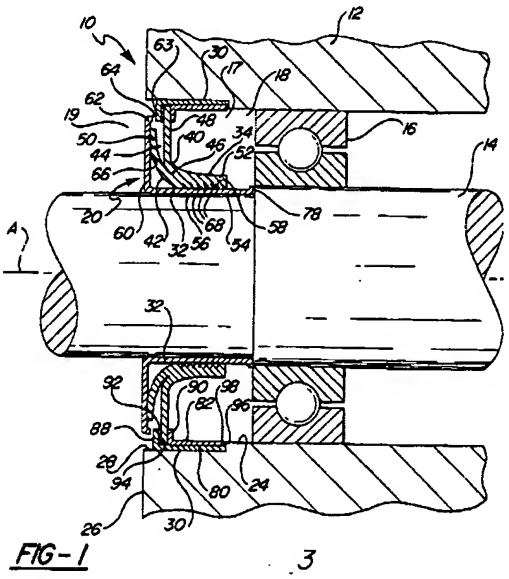

FIG-1

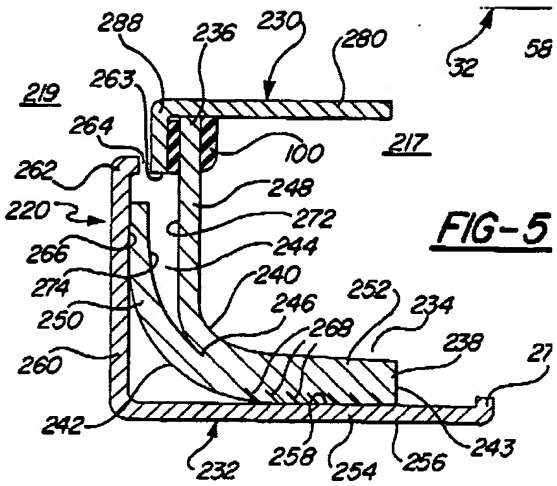

FIG-5

3

Re claim 11: there is an annular living hinge disposed between the 2 collar portions as shown in Guth Fig 1- the living hinge is any of the u-shaped recesses such as at "11". The u-shaped coutout is considered a notch.

Response to Arguments

6. Applicant's arguments with respect to claims 1-5, 8-15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

In particular, applicant is advised to review Bock 6715768, von Schemm USP 5615894, Black 5346662, and Pataille USP 6513810.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine W. Mitchell whose telephone number is 571-272-7069. The examiner can normally be reached on Mon - Thurs 10 AM - 8 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J. Swann can be reached on 571-272-7075. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Katherine W Mitchell
Primary Examiner
Art Unit 3677

Kwm
2/4/2006